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ALBERTA POPULATION GROWTH

FOURTH QUARTER, 1986



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FOURTH QUARTER, 1986

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PREFACE

This publication presents up-to-date information on quarterly population estimates and population growth components (births, deaths and migration) for the province of Alberta. These statistics are derived using administrative data files obtained from several government agencies.

Annual revision of the postcensal estimates, which takes advantage of the most recent data, will be incorporated in the first quarter edition. The second quarter report provides an additional section on the age-sex composition of the June population and a description of methodology in the Appendix.

Data are also computer-accessible via ASIST (Alberta Statistical Information System) matrices #6128, 6130, 6140 and 6141. Enquiries concerning the publication or requests for additional copies or previous quarterly reports should be directed to:

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INTRODUCTION

This publication presents the population estimate of Alberta for the fourth quarter of 1986. Growth components (births, deaths and migration) as well as data on interprovincial migration between Alberta and the other provinces are presented.

Detailed population statistics are provided in four tables. These tables are accompanied by three figures which depict: a) the major components of population growth; b) the gross flows of interprovincial migration; and c) population exchange between Alberta and the other provinces. A brief description of the methodology and information sources used in deriving the estimates, as well as a glossary of terms are provided in the appendixes.

REVIEW OF THE DATA

There was a small increase in the population of Alberta in the fourth quarter of 1986, the result of reduced net out-migration. Since January 1986, total population grew by 14,600, for an annual growth rate of less than one percent.

More specifically:

- Population increased by 700 in the fourth quarter compared to a decrease of 2,500 in the third quarter (Figure 1 and Table 1).



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- Net migration decreased from a loss of 10,300 in the third quarter, to a loss of 7,100 in the fourth quarter (Table 1 and Table 2).
- During the fourth quarter, 16,500 people migrated to Alberta from other provinces, while 24,600 left for other areas of Canada, resulting in a net interprovincial migration loss of 8,100 (Table 3).
- British Columbia provided the most in-migrants at a level of 6,460 or 39% of the total inflow, but this was offset by an outflow of 7,920 Alberta residents to B.C. Ontario received the most out-migrants, at a level of 9,790 or 40% of the Alberta outflow, while providing an in-migration of 3,380 Ontario residents (Table 3 and Figure 3).
- Net international migration, which helped to partially offset the interprovincial loss, increased from 200 in the third quarter to 1,000 in the fourth quarter (Table 2).
- Natural increase remained stable in the quarter at 7,800 (Table 4).
- The increase in total population of 14,600 represents a growth rate of 0.6% in 1986. In 1985, total population growth was 22,300, for a growth rate of 1.0%.
- During 1986, a total of 68,100 persons migrated to Alberta from other provinces, while 87,500 Alberta residents left for other regions of the country, for a net interprovincial loss of 19,400. In 1985, there was

a net interprovincial loss of 11,000, the result of an in-migration of 71,700 and an out-migration of 82,700.

- On an annual basis, the net international migration in 1986 was 3000, a slight increase from the 2,600 recorded in 1985.
- Natural increase for 1986 was 31,000, a marginal increase from its level of 30,700 in 1985.

FIGURE 1

POPULATION GROWTH WITH MAJOR COMPONENTS ALBERTA 1984-1986

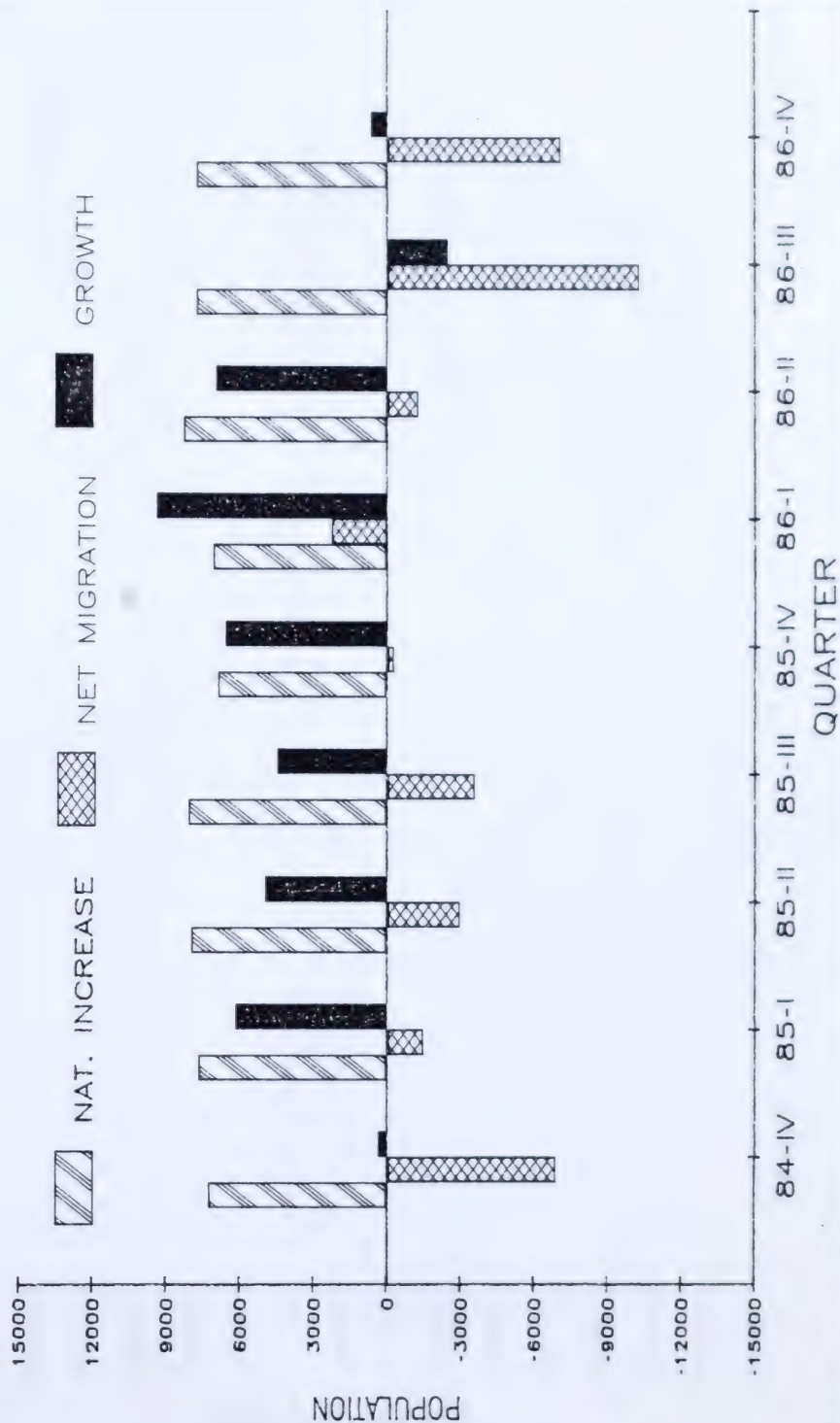


FIGURE 2

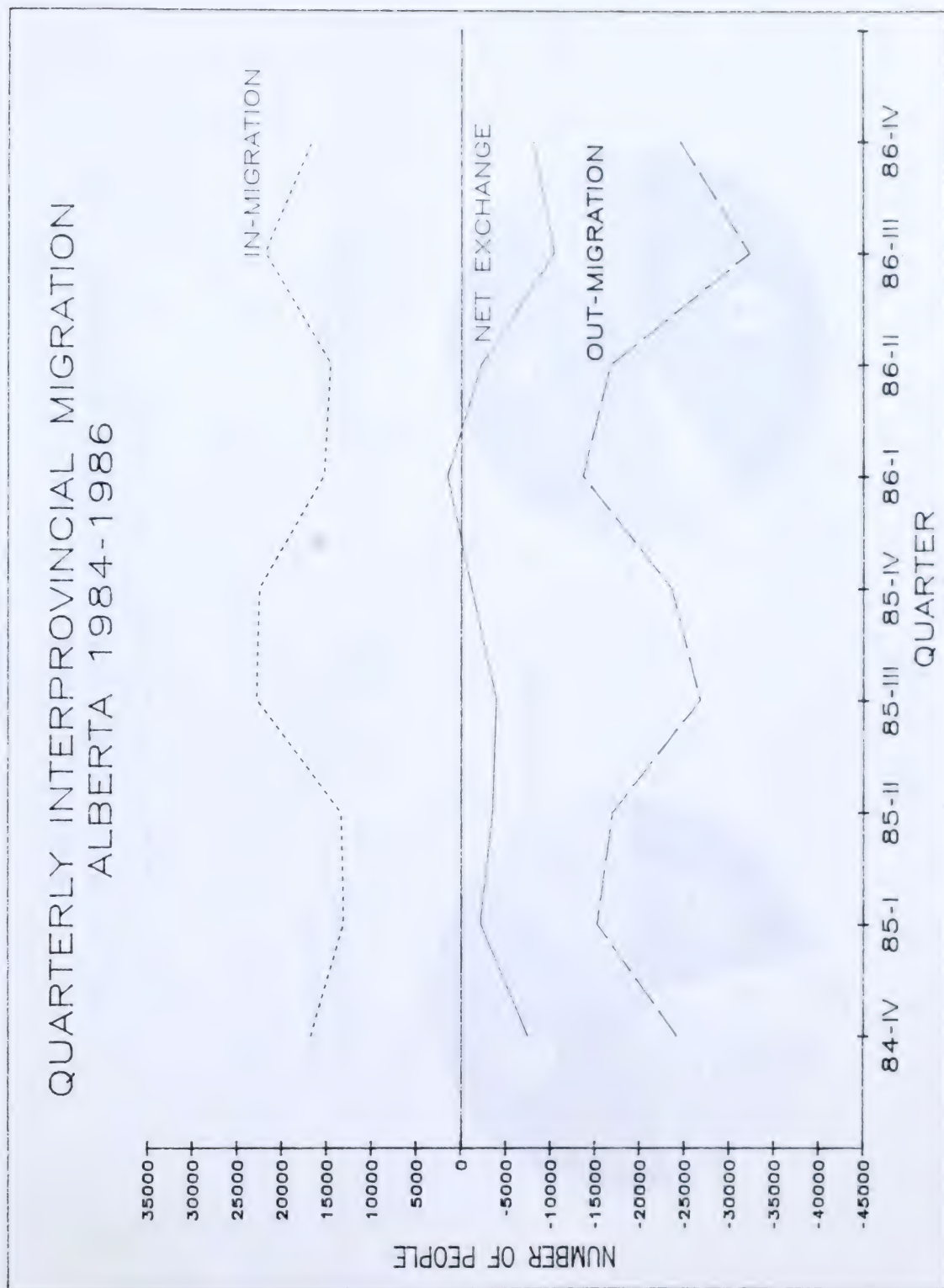
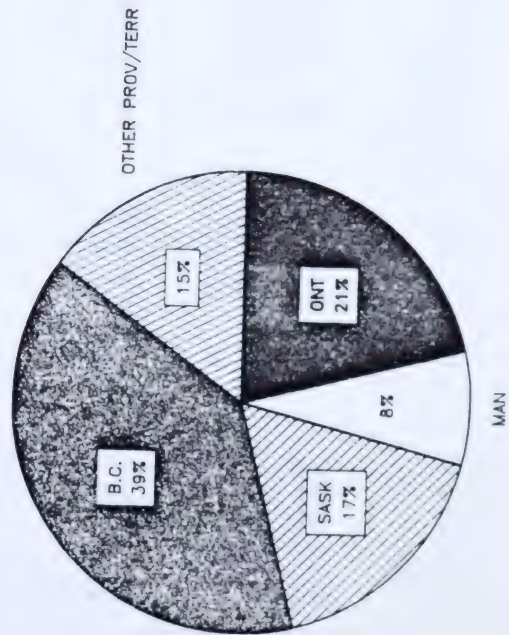


FIGURE 3

POPULATION EXCHANGE ALBERTA AND OTHER PROVINCES FOURTH QUARTER 1986

IN-MIGRATION
(16,500 PERSONS)



OUT-MIGRATION
(24,600 PERSONS)

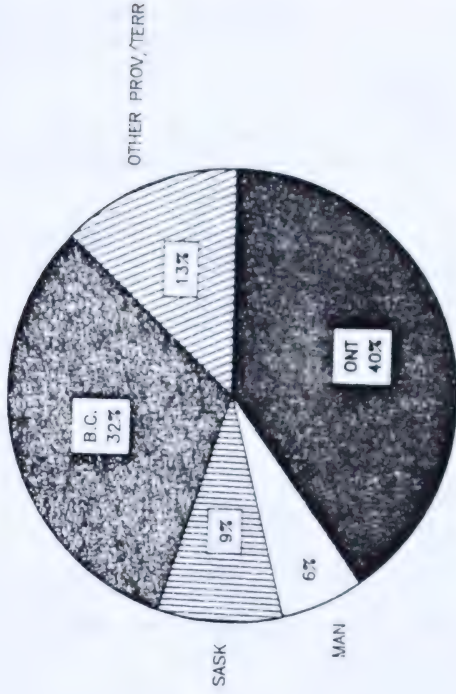


TABLE 1
POPULATION GROWTH BY MAJOR COMPONENT
ALBERTA, 1982 to 1986

Quarter	Natural Increase	Net Migration	Growth	Population	Growth Over Previous Year (%)
<u>1982</u>					
I	7,700	7,100	14,900	2,306,100	3.6
II	8,300	7,900	16,200	2,322,300	3.4
III	8,700	-100	8,500	2,330,800	2.6
IV	7,300	-200	7,100	2,337,900	2.0
TOTAL	32,000	14,700	46,700	2,337,900	2.0
<u>1983</u>					
I	7,900	-2,100	5,800	2,343,700	1.6
II	8,800	-5,300	3,400	2,347,100	1.1
III	8,700	-9,500	-800	2,346,300	0.7
IV	7,500	-5,800	1,700	2,348,100	0.4
TOTAL	32,900	-22,700	10,200	2,348,100	0.4
<u>1984</u>					
I	7,700	-5,900	1,800	2,349,800	0.3
II	8,100	-7,000	1,200	2,351,000	0.2
III	8,300	-12,400	-4,100	2,346,900	0
IV	7,300	-6,900	400	2,347,300	0
TOTAL	31,400	-32,200	-800	2,347,300	0
<u>1985</u>					
I	7,700	-1,500	6,200	2,353,500	0.2
II	8,000	-3,000	5,000	2,358,500	0.3
III	8,100	-3,600	4,500	2,363,000	0.7
IV	6,900	-300	6,600	2,369,600	1.0
TOTAL	30,700	-8,400	22,300	2,369,600	1.0
<u>1986</u>					
I	7,100	2,300	9,400	2,379,000	1.1
II	8,300	-1,300	7,000	2,386,000	1.2
III ^r	7,800	-10,300	-2,500	2,383,500	0.9
IV ^p	7,800	-7,100	700	2,384,200	0.6
TOTAL ^p	31,000	-16,400	14,600	2,384,200	0.6

Notes: Reference date for population is the first day of the subsequent quarter.

Data may not add to totals due to rounding.

r: revised

p: preliminary

TABLE 2
MIGRATION BY COMPONENT
ALBERTA, 1984 to 1986

Quarter	International			Interprovincial		
	Im- migration	Em- igration	Net	In Migration	Out Migration	Net
<u>1984</u>						
I	2,400	1,300	1,100	7,200	14,300	-7,100
II	3,000	1,500	1,500	8,700	17,200	-8,500
III	3,100	1,100	2,000	20,600	35,000	-14,400
IV	2,200	1,600	600	16,700	24,200	-7,500
TOTAL	10,700	5,500	5,200	53,200	90,600	-37,400
<u>1985</u>						
I	2,000	1,300	700	13,100	15,300	-2,200
II	2,000	1,400	600	13,400	17,000	-3,600
III	2,700	2,300	400	22,800	26,800	-4,000
IV	2,200	1,300	900	22,400	23,600	-1,200
TOTAL	8,900	6,300	2,600	71,700	82,700	-11,000
<u>1986</u>						
I	2,200	1,400	800	15,200	13,700	1,500
II	2,500	1,400	1,000	14,500	16,800	-2,300
III ^r	2,400	2,200	200	21,900	32,400	-10,500
IV ^p	2,300	1,200	1,000	16,500	24,600	-8,100
TOTAL ^p	9,400	6,200	3,000	68,100	87,500	-19,400

Notes: Data may not add to totals due to rounding.
r: revised
p: preliminary

TABLE 3

POPULATION EXCHANGE WITH OTHER PROVINCES
ALBERTA, 1984 to 1986

Quarter	Migration	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	BC	TERR	TOTAL
1984												
I	To Alberta	180	20	150	165	270	1675	610	1100	2825	250	7,200
	From Alberta	205	120	595	280	910	5350	835	1670	4085	220	14,300
	Net Exchange	-25	-100	-445	-115	-640	-3675	-225	-570	-1260	30	-7,100
II	To Alberta	175	95	345	170	310	2040	790	1230	3255	245	8,700
	From Alberta	255	115	875	465	1345	5430	1035	2175	5280	200	17,200
	Net Exchange	-80	-20	-530	-295	-1035	-3390	-245	-945	-2025	45	-8,500
III	To Alberta	450	120	930	830	955	5400	1560	2825	7015	515	20,600
	From Alberta	585	255	1570	1005	2240	12860	1840	3525	10420	690	35,000
	Net Exchange	-135	-135	-640	-175	-1285	-7460	-280	-700	-3405	-175	-14,400
IV	To Alberta	430	75	675	475	890	4080	1155	2220	6260	395	16,700
	From Alberta	440	200	990	730	1390	8200	1430	2820	7595	355	24,200
	Net Exchange	-10	-125	-315	-255	-500	-4120	-275	-600	-1335	40	-7,500
TOTAL	To Alberta	1235	310	2100	1640	2425	13195	4115	7375	19355	1405	53,200
	From Alberta	1485	690	4030	2480	5885	31840	5140	10190	27380	1465	90,600
	Net Exchange	-250	-380	-1930	-840	-3460	-18645	-1025	-2815	-8025	-60	-37,400

See note at end of table.

TABLE 3 (continued)
POPULATION EXCHANGE WITH OTHER PROVINCES
ALBERTA, 1984 to 1986

Quarter	Migration	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	BC	TERR	TOTAL
1985												
I	To Alberta	230	75	515	330	370	3100	830	2115	5285	250	13,100
	From Alberta	275	60	605	415	800	5310	910	1650	4935	305	15,300
	Net Exchange	-45	15	-90	-85	-430	-2210	-80	465	350	-55	-2,200
II	To Alberta	240	50	530	340	345	2525	925	2365	5755	360	13,400
	From Alberta	235	110	595	445	845	5815	1165	1870	5635	315	17,000
	Net Exchange	5	-60	-65	-105	-500	-3290	-240	495	120	45	-3,600
III	To Alberta	505	205	1065	685	750	5115	1905	3855	8025	645	22,800
	From Alberta	510	215	1110	645	1355	9290	1985	2515	8645	535	26,800
	Net Exchange	-5	-10	-45	40	-605	-4175	-80	1340	-620	110	-4,000
IV	To Alberta	505	85	995	480	775	3725	1425	3815	9880	755	22,400
	From Alberta	355	120	715	615	900	7650	1500	3145	8245	360	23,600
	Net Exchange	150	-35	280	-135	-125	-3925	-75	670	1635	395	-1,200
TOTAL	To Alberta	1480	415	3105	1835	2240	14465	5085	12150	28945	2010	71,700
	From Alberta	1375	505	3025	2120	3900	28065	5560	9180	27460	1515	82,700
	Net Exchange	105	-90	80	-285	-1660	-13600	-475	2970	1485	495	-11,000

See note at end of table.

TABLE 3 (concluded)

POPULATION EXCHANGE WITH OTHER PROVINCES
ALBERTA, 1984 to 1986

Quarter	Migration	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	BC	TERR	TOTAL
1986												
I	To Alberta	380	65	470	330	355	3430	930	2400	6385	445	15,200
	From Alberta	185	60	365	175	645	4560	755	1800	4925	250	13,700
	Net Exchange	195	5	105	155	-290	-1130	175	600	1460	195	1,500
II	To Alberta	355	55	480	290	440	3030	995	2595	5835	405	14,500
	From Alberta	295	75	580	325	715	5675	1055	1760	5960	345	16,800
	Net Exchange	60	-20	-100	-35	-275	-2645	-60	835	-125	60	-2,300
III ^r	To Alberta	460	135	870	605	960	5135	1710	3930	7560	575	21,900
	From Alberta	835	115	1015	680	1445	12555	1810	2830	10570	555	32,400
	Net Exchange	-375	20	-145	-75	-485	-7420	-100	1100	-3010	20	-10,500
IV ^p	To Alberta	270	35	690	295	615	3380	1330	2780	6460	625	16,500
	From Alberta	430	100	805	320	1080	9790	1345	2330	7920	435	24,600
	Net Exchange	-160	-65	-115	-25	-465	-6410	-15	450	-1460	190	-8,100
TOTAL ^p	To Alberta	1465	290	2510	1520	2370	14975	4965	11705	26240	2050	68,100
	From Alberta	1745	350	2765	1500	3885	32580	4965	8720	29375	1585	87,500
	Net Exchange	-280	-60	-255	20	-1515	-17605	0	2985	-3135	465	-19,400

Note: Data may not add to totals due to rounding.

Estimates are based on family allowance transfer statistics, Health and Welfare Canada.

r: revised

p: preliminary

TABLE 4
NATURAL INCREASE BY COMPONENT
ALBERTA, 1984 to 1986

Quarter	Births	Deaths	Natural Increase
<u>1984</u>			
I	10,900	3,200	7,700
II	11,300	3,200	8,100
III	11,300	3,000	8,300
IV	10,500	3,200	7,300
TOTAL	44,000	12,600	31,400
<u>1985</u>			
I	11,000	3,300	7,700
II	11,300	3,300	8,000
III	11,300	3,200	8,100
IV	10,400	3,500	6,900
TOTAL	44,000	13,300	30,700
<u>1986</u>			
I	10,600	3,500	7,100
II	11,700	3,400	8,300
III ^r	11,000	3,300	7,800
IV ^p	11,100	3,400	7,800
TOTAL ^p	44,400	13,600	31,000

Notes: Data may not add to totals due to rounding.
r: revised
p: preliminary

APPENDIX I

METHODOLOGY

Introduction

Since 1977 the Alberta Bureau of Statistics has prepared quarterly population estimates to provide up-to-date information on Alberta's population. These estimates are derived using information from administrative data files obtained from the following government agencies:

- 1) birth and death registrations data from Vital Statistics Section, Community and Occupational Health;
- 2) family allowance transfer counts from Income Security Branch, Health and Welfare Canada;
- 3) immigration statistics from Employment and Immigration Canada;
- 4) migration adjustment factors and population estimates for other provinces from Demography Division, Statistics Canada; and
- 5) health care registration data from Alberta Hospitals and Medical Care.

The final estimates are produced using a component method. The following is a brief description of the methodology used in estimating each of the population growth components and the distribution by age and sex. A more detailed discussion of the methodology and the procedures is provided annually in the second quarter edition.

The Component Method

The Component method of estimating quarterly population growth employs the population of a previous quarter as a base, adds the natural increase plus net migration to derive the population estimates for the following quarter. Natural increase is obtained by subtracting deaths from births. Net migration is obtained by aggregating net interprovincial (in-migration minus out-migration) and net international migration (immigration minus emigration). These are then combined to derive an estimate of population growth.

Natural Increase

Natural increase is calculated as the difference between the number of births and the number of deaths that occurred during a specific quarter. Preliminary estimates on births and deaths are produced using birth and death rates. The average quarterly crude birth rate and the crude death rate of the preceding year are applied to the estimated provincial population at the beginning of the period to derive the estimated number of births and deaths. These estimates will be replaced by actual counts in a subsequent quarterly report when final vital statistics data are available from Vital Statistics Branch, Community and Occupational Health.

Interprovincial Migration

To estimate interprovincial migration, family allowance transfer of accounts are used in conjunction with the latest adjustment factors and child-adult ratios. Since family allowance cheques are mailed to recipient families monthly, there is incentive for these families to report any change in their address. The time

lag in reporting is usually very small. Family allowance transfer of accounts data are fairly complete in the coverage of the movements of children among the provinces, although limited by the shortcomings associated with administrative data files such as mis-reporting and reporting delays. The procedures used in estimating interprovincial migration for Alberta have been improved by incorporating new findings from tax records migration data. Net interprovincial migration is derived as the balance of in-migration and out-migration.

Immigration

The estimation of immigration is first produced on a preliminary basis and then revised when immigration statistics are available. Preliminary estimates are derived taking into consideration the expected number of immigrants to be admitted to Canada in a certain year as announced by Employment and Immigration Canada. Based on the immigration records for the previous year, a ratio is derived to estimate Alberta's share of immigrants.

Previous immigration statistics for Alberta are used to develop the appropriate quarterly ratio allocation of these immigrants. This ratio is applied to the annual number of immigrants expected to arrive in Alberta to obtain the quarterly immigration estimate.

Revised estimates on the number of immigrants coming to Alberta are based on immigration statistics supplied by Employment and Immigration Canada. These statistics are compiled from immigration papers which each immigrant submits to the Canadian authority at the port of entry. These revised figures can be obtained by the subsequent quarter and will replace the preliminary estimate.

Emigration

Emigration estimates are derived from a method developed by Statistics Canada in which an adjustment factor is developed from emigration information retrieved from personal income tax files. This adjustment factor is applied to the number of family allowance accounts which have been transferred out of the country during the quarter to obtain the emigration estimate. An adult-child ratio based on health care registration records for Alberta is then applied to estimate the number of adult emigrants. The sum of estimated adult emigrants and the number of child emigrants, as indicated by family allowance data, equals the total number of estimated emigrants.

Age-Sex Structure

Age and sex distributions for the January 1 and June 1 estimated population are derived by applying the proportionate age and sex distributions as recorded in the Alberta Health Care Insurance Plan (AHCIP) Master Registration File for the same quarter to the estimated total population of Alberta. Although the health care records are subject to certain limitations such as reporting error, time lags and administrative changes, the age and sex distributions of registrants are generally useful in reflecting the most current age-sex structure of the Alberta population.

APPENDIX II

GLOSSARY

Birth rate, or crude birth rate - the number of births in a year divided by the total population.

Death rate, or crude death rate - the number of deaths in a year divided by the total population.

Emigration - the migration of population out of a country to another country.

Immigration - the migration of population into a country from another country.

In-migration - the migration of population into a geographical area from another area.

Migration - a permanent change of residence from one geographical area to another.

Natural Increase - the net contribution of births less deaths to population change.

Net Migration - the difference between in-migration and out-migration for a geographical area.

Out-migration - the migration of population out of a geographical area.



